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IMPROVED MODE OF APPLYING INKS OF DIFFERENT CHARACTERS, SO AS TO PRINT SAFETY, REVENUE, AND OTHER STAMPS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, WILLIAM THORPE, of the city of St. Louis, in the county of St. Louis, and State of Missouri, have invented certain new and useful Improvements in the Manufacture of Stamps for the Use of the Internal-Revenue Bureau, the Post-Office Department, or any department, office, or person, so as to prevent their reuse, and to prevent as much as possible the counterfeiting of the same.

The nature of my invention consists in the printing each of such stamps with two kinds of ink of different colors, and so different in their chemical composition that a solution of any acid will destroy the one, while the other will be likewise destroyed by the action of a solution of any alkali, the object being to prevent the removal of the cancellation-marks from such stamps after they have been once used and cancelled.

And further, in so disposing the ink of the ground color, and that with which the letters, figures, and vignette or other devices are printed, as to render it impossible for the marks of cancellation to touch one kind of ink without touching the other, and at the same time to render it extremely difficult, if not impossible, to counterfeit such stamps.

To enable others skilled in the art to use my invention, I will proceed to describe the same.

I claim no novelty as to size, form, vignette, or mechanical means of imprinting the colors or devices upon the stamps.

One of my inks, which I will call the green ink, I make of about fifteen parts of verdigris, two parts of ultramarine, one-half part of chrome-yellow, with boiled linseed-oil and flake-white in sufficient quantities to give it proper consistence or body.

The other, which may be called the red ink, is composed of about fifteen parts of litmus-red and one part of carmine-lake, together with boiled linseed-oil and flake-white in quantities sufficient to give the ink proper consistence or body.

These colors may be varied, as may be desired, but there should always be a decided contrast between the two inks used in printing a stamp, as to color, and one of them should be as sensitive as possible to the action of the acids, while the other should be sensitive, and as much so as possible, to the action of the alkalies.

The ink which is sensitive to the action of the acids should be so in a greater degree, if practicable, than ordinary writing-ink, so that when cancellation-marks made with writing-ink are removed by the use of an acid, such ink-color will certainly be removed at the same time; and, on the other hand, the ink which is sensitive to the action of the alkalies should be more sensitive to their action than printers' ink, so that when the stamp has been cancelled with printers' or other similar ink, and such ink has been removed by the use of an alkali, some part of the ink of the stamp will certainly be removed at the same time, and thus the stamp will inevitably and effectually be destroyed.

Reference here is had to the two modes prescribed by law for the cancellation of revenue and postage-stamps; one by the use of a pen and writing-ink, the other by the hand or other stamp and printers'-ink.

The letters, figures, and vignette, and other devices, should be printed upon and after the ground color has been imprinted, and they should be so disposed and arranged upon the ground color of the stamp as to leave no large spaces not covered by them, so that the ink from the cancelling-instrument will invariably touch and cover over some portion of inks of the stamp.

The difficulty of extracting the ink used in cancelling might be much increased by the use of paper for the stamp which has been only partially sized, so that the ink used in cancelling would penetrate it more deeply. This means might increase the security of effectual cancellation.

I have thus far mainly devoted my attention to describing in what manner, by my invention, the destruction of the marks of cancellation and the reuse of the stamp may be prevented. But another principal object of my invention is to prevent the counterfeiting of stamps.

Four different modes of counterfeiting stamps have been resorted to with more or less success:

First, by the transfer-process, which consists in softening, by a solution of alkali, the ink upon the stamp, from which an impression is then transferred to a steel plate. The form of the stamp is then engraved upon the plate, after which any number of stamps may be printed from it with great accuracy.

Second, by lithography, which is similar to the above, stones being used instead of steel plates.

Third, by photography.

Fourth, by tracing, which is an old and well-known method, and consists in tracing out the lines of the stamp upon a plate first, and then engraving the same, after which the stamp is printed.

Now, for instance, the first or ground color will be assumed to be the one most sensitive to the action of the acids, and the engravings upon it to have been made of lathe-work with a suitable design. Then the other color should be the one most sensitive to the action of alkalies, and the engravings upon it should consist of a vignette, letters, figures, with any other desired devices, and a border for the stamp. Then, when an attempt is made to transfer the stamp, the ink